

Python Programming

Month 1: Introduction to Python Basics

Week 1: Introduction to Programming and Python

- Overview of programming concepts
- Installing Python and an IDE
- First Python program

Week 2-3: Python Basics

- Variables, data types, and operators
- Control flow (if statements, loops)
- Functions and basic input/output

Week 4-5: Data Structures in Python

- Lists, tuples, and dictionaries
- String manipulation
- Basic file handling

Week 6: Practical Application

- Simple programming exercises and small projects

Month 2: Intermediate Python Concepts and Project Work

Week 1-2: Object-Oriented Programming (OOP) in Python

- Introduction to classes and objects
- Encapsulation, inheritance, and polymorphism

Week 3-4: Python Libraries and Frameworks

- Overview of popular libraries (e.g., NumPy, Pandas)
- Introduction to web development with Flask

Week 5-6: Final Project and Advanced Topics

- Guided final project work
- Introduction to more advanced Python topics (e.g., decorators, generators)